

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

April 13, 2007

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: REQUEST FOR AN AMENDMENT OF CONTRACT NUMBER 54005 WITH THE UNIVERSITY OF HAWAII FOR THE ACCELERATION OF MICONIA BIOCONTROL TO EXTEND THE TIME OF PERFORMANCE TO 6/30/07.

This Board Submittal requests an amendment to the Hawaii Invasive Species Council (HISC) contract 54005 with the University of Hawaii, involving the evaluation of insects in Costa Rica and Brazil for biocontrol of *Miconia calvescens*. The Board authorized the Chairperson to enter into contract for these services on May 13, 2005 subject to the certification of availability of funds and approval as to form by the Attorney General's Office.

BACKGROUND: The Department of Land and Natural Resources published a Request for Proposal (RFP) on March 1, 2005 on the State Procurement Office website for the FY06 HISC Program. The primary purpose of the HISC is to provide the institutional framework for leadership and coordination for a statewide invasive species prevention and control program.

HISC received an administrative budget of \$4 million for the initial year to provide support for the operations of the HISC and its cooperating partners, to develop a comprehensive state-wide invasive species prevention, control, research, application of new technology, and outreach program. Of that amount, 17 grants were selected for funding through the Research and Technology program requiring \$600,165 in HISC funding. These funds are matched with \$983,572 in non-state dollars.

The following HISC contract requires an amendment for a time extension (extended to 12/31/07):

<u>Contract 54003 – UH</u>	<u>Contract Recipient</u>	<u>Contract Amount</u>
Evaluation of insects in Costa Rica and Brazil for biocontrol of <i>Miconia calvescens</i>	University of Hawaii PI: David Duffy, PhD	78,747.00

CONTRACT PROVISIONS:

This amendment for a time extension will be negotiated with the University of Hawaii to implement the project in accordance with their awarded proposal. The Division will submit the amendment for review and approval as to form by the Attorney General, and process the document for signature by the Chairperson.

RECOMMENDATION:

That the Board authorizes the Chairperson to negotiate and execute the amendment to the contract 54005 as outlined above subject to:

- 1.) Approval as to form by the Attorney General's Office.

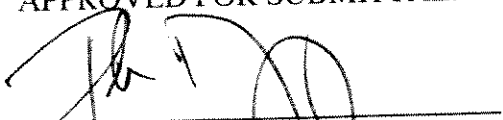
Respectfully submitted



PAUL J. CONTRY, Administrator
Division of Forestry and Wildlife

Attachment

APPROVED FOR SUBMITTAL:


PETER T. YOUNG, Chairperson
Board of Land and Natural Resources

**STATE OF HAWAII
AGREEMENT FOR GOODS OR SERVICES
BASED UPON COMPETITIVE SEALED PROPOSALS**

This Agreement, executed on the respective dates of the signatures of the parties shown hereafter, is effective as of Oct 20 2005, 19 , between the

DEPARTMENT OF LAND AND NATURAL RESOURCES

(Insert name of state department, agency, board, or commission)

State of Hawaii (hereinafter "STATE"), by its Chairperson

(hereinafter "DIRECTOR"), and University of Hawaii

(hereinafter "CONTRACTOR"), a state agency

(Insert "corporation," "partnership," "joint venture," "sole proprietorship," or other legal form of the Contractor)

under the laws of the State of Hawaii, whose business address and

taxpayer identification number are as follows: Office of Research Services

Sakamaki D200, 2530 Dole St., Honolulu, Hawaii 96822; 99-6000354

RECITALS

A. The STATE is in need of the goods or services, or both, described in this Agreement and its attachments.

B. The STATE has issued a request for competitive sealed proposals, and has received and reviewed proposals submitted in response to the request.

C. The solicitation for proposals and the selection of the CONTRACTOR were made in accordance with section 103D-303, Hawaii Revised Statutes ("HRS"), Hawaii Administrative Rules, Title 3, Department of Accounting and General Services, Subtitle 11 (hereinafter "Procurement Rules"), sections 3-122-41 through 3-122-60, and applicable procedures established by the appropriate Chief Procurement Officer ("CPO").

D. The CONTRACTOR has been identified as the responsible and responsive offeror whose proposal is the most advantageous for the STATE, taking into consideration price and the evaluation factors set forth in the request.

E. The STATE desires to retain and engage the CONTRACTOR to provide the goods or services, or both, as the case may be, and the CONTRACTOR is agreeable to providing said goods or services, or both.

F. Money is available to fund this Agreement pursuant to:

(1) S-05-314-522

(Identify state sources)

or (2)

(Identify federal sources)

or both, in the following amounts:

State \$ 78,747

Federal \$

G. Pursuant to HRS 171-6, the STATE is

(Legal authority to enter into agreement)

authorized to enter into this Agreement.

NOW, THEREFORE, in consideration of the promises contained in this Agreement, the STATE and the CONTRACTOR agree as follows.

1. Scope of Performances. The CONTRACTOR shall, in a proper and satisfactory manner as determined by the STATE, provide all the goods or services, or both, set forth in the request for competitive sealed proposals number ^{HISC RT 002} ("Request"), and the CONTRACTOR's accepted proposal ("Proposal"), both of which, even if not physically attached to this Agreement, are hereby made a part this Agreement.

2. Compensation. The CONTRACTOR shall be compensated for goods supplied or services performed, or both, under this Agreement in a total amount not to exceed ^{Seventy-eight thousand} ~~seven hundred forty-seven~~ DOLLARS (\$ 78,747), including taxes, at the time and in the manner set forth in the Request and CONTRACTOR's proposal.

3. Bonds. The CONTRACTOR is not required to provide a (performance) (payment) (performance and payment) bond in the amount of DOLLARS (\$).

4. Standards of Conduct Declaration. The Standards of Conduct Declaration of the CONTRACTOR, is attached and is made a part of this Agreement.

5. Other Terms and Conditions. The General Conditions and any Special Conditions are attached hereto and made a part of this Agreement. In the event of a conflict between the General Conditions and the Special Conditions, the Special Conditions shall control. In the event of a conflict among the documents, the order of precedence shall be as follows: (1) Agreement, including all attachments and addenda; (2) Request, including all attachments and addenda; and (3) Proposal.

6. Liquidated Damages. Liquidated damages shall be assessed in the amount of zero DOLLARS (\$ 0) per day, in accordance with the terms of paragraph 9 of the General Conditions.

7. Notices. Any written notice required to be given by any party to this Agreement shall be (a) delivered personally, or (b) sent by United States first class mail, postage prepaid. Notice required to be given to the Director shall be sent to the Director's office in

Honolulu, Hawaii. Notice to the agency procurement officer shall be sent to: Mark Defley,
Plan Implementation Manager, Hawaii Invasive Species Council, DLNR, DOFAW,
1151 Punchbowl St. Rm. 325, Honolulu, HI 96813 (808) 587-0164. Notice to the CONTRACTOR at the
CONTRACTOR's address as indicated in this Agreement. A notice shall be deemed to have
been received three (3) days after mailing or at the time of actual receipt, whichever is earlier.
The CONTRACTOR is responsible for notifying the STATE in writing of any change of
address.

IN VIEW OF THE ABOVE, the parties execute this Agreement by their
signatures, on the dates below, to be effective as of the date first above written.

STATE

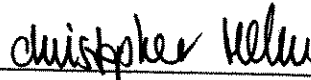
By 

~~for~~ Print Name PETER T. YOUNG

Title Chairperson
Department of Land and Natural
Resources

Date _____

CONTRACTOR


By 

Print Name Christopher Helm

Title Interim Director *
University of Hawaii
Office of Research Services

Date 10-04-05

APPROVED AS TO FORM:



Deputy Attorney General

*Evidence of authority of the CONTRACTOR's representative to sign this Agreement for the
CONTRACTOR must be attached.

CONTRACTOR'S ACKNOWLEDGMENT

State of Hawaii)
) SS.
City and County of Honolulu)

On this 4th day of October, ²⁰⁰⁵~~19~~, before me personally appeared
Christopher Helm, to me personally known, who being by me duly sworn, did
Interim University of Hawaii
say that he/~~she~~ is the Director of Office of Research Services,
the CONTRACTOR named in the foregoing instrument, and that he/~~she~~ is authorized to sign
said instrument on behalf of the CONTRACTOR, and acknowledges that he/~~she~~ executed said
instrument as the free act and deed of the CONTRACTOR.


Notary Public, State of Hawaii
My commission expires: 06/02/2006

DIRECTOR'S
CERTIFICATE OF EXEMPTION FROM CIVIL SERVICE

I certify that the services to be provided under this Agreement by the CONTRACTOR may be performed concurrently with the CONTRACTOR's private business or profession or other private employment, and that it is impracticable to ascertain or anticipate the portion of time to be devoted to the service of the STATE. Pursuant to section 76-16, HRS, the services are exempt from the state civil service.

(signature) Date _____
Print Name _____
Title _____
State of Hawaii

CERTIFICATE OF EXEMPTION FROM CIVIL SERVICE

1. By Heads of Departments or Agencies as Delegated by the Director of Human Resources Development ¹.

Pursuant to a delegation of the authority by the Director of Human Resources Development, I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to §76-16, Hawaii Revised Statutes (HRS).

(Signature)

Date

PETER T. YOUNG

(Print Name)

Chairperson, Department of Land and Natural Resources

(Print Title)

¹This part of the form may be used by all department heads and others to whom the Director of Human Resources Development (DHRD) has delegated authority to certify §76-16, HRS, civil service exemptions. The specific paragraph(s) of §76-16, HRS, upon which an exemption is based should be noted in the contract file. NOTE: Authority to certify exemptions under §§76-16(2), 76-16(12), and 76-16(15), HRS, has not been delegated; only the Director of DHRD may certify §§76-16(2), 76-16(12), and 76-16(15) exemptions.

2. By the Director of Human Resources Development, State of Hawaii.

I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to §76-16, Hawaii Revised Statutes (HRS).

(Signature)

Date

(Print Name)

(Print Title, if designee of the Director of DHRD)

**CONTRACTOR'S
STANDARDS OF CONDUCT DECLARATION**

For the purposes of this declaration:

"Agency" means and includes the State, the legislature and its committees, all executive departments, boards, commissions, committees, bureaus, offices; and all independent commissions and other establishments of the state government but excluding the courts.

"Controlling interest" means an interest in a business or other undertaking which is sufficient in fact to control, whether the interest is greater or less than fifty per cent (50%).

"Employee" means any nominated, appointed, or elected officer or employee of the State, including members of boards, commissions, and committees, and employees under contract to the State or of the constitutional convention, but excluding legislators, delegates to the constitutional convention, justices, and judges. (Section 84-3, HRS).

University of Hawaii

On behalf of Office of Research Services, CONTRACTOR, the undersigned does declare as follows:

1. CONTRACTOR ☐ is* ☒ is not a legislator or an employee or a business in which a legislator or an employee has a controlling interest. (Section 84-15(a), HRS).
2. CONTRACTOR has not been represented or assisted personally in the matter by an individual who has been an employee of the agency awarding this Contract within the preceding two years and who participated while so employed in the matter with which the Contract is directly concerned. (Section 84-15(b), HRS).
3. CONTRACTOR has not been assisted or represented by a legislator or employee for a fee or other compensation to obtain this Contract and will not be assisted or represented by a legislator or employee for a fee or other compensation in the performance of this Contract, if the legislator or employee had been involved in the development or award of the Contract. (Section 84-14 (d), HRS).
4. CONTRACTOR has not been represented on matters related to this Contract, for a fee or other consideration by an individual who, within the past twelve (12) months, has been an agency employee, or in the case of the Legislature, a legislator, and participated while an

* Reminder to agency: If the "is" block is checked and if the Contract involves goods or services of a value in excess of \$10,000, the Contract must be awarded by competitive sealed bidding under section 103D-302, HRS, or a competitive sealed proposal under section 103D-303, HRS. Otherwise, the agency may not award the Contract unless it posts a notice of its intent to award it and files a copy of the notice with the State Ethics Commission. (Section 84-15(a), HRS).

employee or legislator on matters related to this Contract. (Sections 84-18(b) and (c), HRS).

CONTRACTOR understands that the Contract to which this document is attached is voidable on behalf of the STATE if this Contract was entered into in violation of any provision of chapter 84, Hawaii Revised Statutes, commonly referred to as the Code of Ethics, including the provisions which are the source of the declarations above. Additionally, any fee, compensation, gift, or profit received by any person as a result of a violation of the Code of Ethics may be recovered by the STATE.

DATED: Honolulu, Hawaii, _____.

CONTRACTOR

By _____
(signature)

Print Name KEVIN HANAOKA

Print Title Interim Director

Name of Contractor University of Hawaii
Office of Research Services

Date _____

SCOPE OF SERVICES

The Contractor shall perform and provide in a satisfactory and proper manner for and as determined by the Department of Land and Natural Resources, Division of Forestry and Wildlife, for a period of eighteen months commencing from the effective date on page 1 of this Agreement, all in strict accordance with the terms and conditions of this agreement, the following:

- 1) Obtain life history, rearing methods, preliminary host specificity and impact data for three or more prospective agents for biological control of *Miconia calvescens*.
- 2) Evaluate inflorescence feeders in Costa Rica and leaf/stem feeders in Costa Rica and Brazil.
- 3) Complete a detailed study of 1-2 leaf/stem insects in Brazil.
- 4) Complete a detailed study of 1-2 leaf/stem insects in Costa Rica.
- 5) Complete a detailed study of 2-3 inflorescence insects in Costa Rica.
- 6) Ship viable insect colonies together with rearing instructions to quarantine in Hawaii for detailed host specificity tests.
- 7) Measure life history data through observations in the field as well as insects reared on potted plants or plant material in the lab.
- 8) Include in the data collected: duration of each developmental stage; location, timing and frequency of feeding, mating and egg-laying; fecundity; and incidence of parasitism and predation.
- 9) Evaluate host specificity through documentation of use or non-use of associated plants in the field and limited no-choice tests in the lab.
- 10) Evaluate impact in the field in terms of insect density and damage per individual feeding insect, using experimental inclusion or exclusion of insects if feasible.
- 11) Write separate manuscripts on the biological data for each species for submission to and publication in peer-reviewed journals such as "Biological Control."
- 12) Formulate (11) for inclusion in petitions for release (as established by the Hawaii Department of Agriculture and USDA-APHIS).
- 13) Deliver written progress reports on or before January 1, 2006 and July 1, 2006 and January 1, 2007, either electronically or in hard copy. The reports must document progress in the twelve tasks listed above.
- 14) Deliver a final written report upon completion of the project, either electronically or in hard copy. The report must document completion of the thirteen tasks listed above.

TIME OF PERFORMANCE

The time of performance is eighteen (18) months, commencing on the effective date on page 1 of this Agreement.

Schedule of Activities:

January 2006: Hire post-doc.

January 2006: Preliminary evaluation of inflorescence feeders in Costa Rica.

February 2006: Preliminary evaluation of leaf/stem feeders in Costa Rica and Brazil.

March-July 2006: Detailed study of 2-3 inflorescence insects in Costa Rica.

July-September 2006: Detailed study of 1-2 leaf/stem insects in Brazil.

August-December 2006: Detailed study of 1-2 leaf/stem insects in Costa Rica.

November 2006 - March 2007: Write-up.

COMPENSATION AND PAYMENT SCHEDULE

1) Scope of Payment: In full consideration of the services to be performed under this Contract, the STATE agrees to pay the CONTRACTOR a total sum not to exceed SEVENTY-EIGHT THOUSAND SEVEN HUNDRED FORTY-SEVEN DOLLARS (\$78,747).

2) Advance Payment: Upon application by the CONTRACTOR, the STATE will make an advance payment upon presentation of an invoice in the amount of THIRTY-NINE THOUSAND THREE HUNDRED SEVENTY-FOUR DOLLARS (\$39,374).

3) Progress Payments: Upon completion and acceptance of each and any of the first twelve tasks in the Scope of Services (Attachment 1), and upon application by the CONTRACTOR, the STATE will make progress payments upon presentation of invoices for documented allowable reimbursable expenses, the total sum of which is not to exceed THIRTY-ONE THOUSAND FOUR HUNDRED NINETY-EIGHT DOLLARS (\$31,498). Payment of a progress payment shall not be construed as an absolute acceptance of the work done up to the time of the payments, but the entire work is subject to acceptance at the time the CONTRACTOR advises the STATE that the work is completed.

4) Retainage Payment: A retainage payment of SEVEN THOUSAND EIGHT HUNDRED SEVENTY-FIVE DOLLARS (\$7,875) of the total payment shall be withheld by the STATE until the CONTRACTOR successfully complies with all terms of this agreement.

5) Initiating work: All work completed by the CONTRACTOR prior to the receipt of a fully-executed copy of this CONTRACT shall be at the CONTRACTOR's own volition, risk, and expense, including work performed during the period of any deliberations by the Board or Department of Land and Natural Resources in anticipation of a contract; provided, however, that if funding applicable to such work becomes available and is appropriated, the CONTRACTOR may be paid for such work even if performed prior to such approval.

6) Performance delays: The CONTRACTOR shall not be allowed additional compensation in the event of delays in performance.

SPECIAL CONDITIONS

Key Personnel are:

David Duffy, Principal Investigator
Unit Leader and Professor
Pacific Cooperative Studies Unit (PCSU)
Department of Botany
University of Hawaii at Manoa
3190 Maile Way, St. John 409
Honolulu, Hawaii 96822

Tracy Johnson, Co-investigator
Hawaii Volcanoes National Park Quarantine Facility
Institute of Pacific Islands Forestry
USDA Forest Service, Pacific Southwest Research Station
P.O. Box 236
Volcano, Hawaii 96785
Ph: 808-967-7122
Fax: 808-967-7158
E-mail: tracyjohnson@fs.fed.us

The CONTRACTOR shall be responsible for obtaining in a timely fashion any and all permits required to fulfill the terms of this Contract.

SPECIAL CONDITIONS

1. For purposes of this Contract, paragraph 4 on page 2 of the Contract, "Standards of Conduct Declaration" together with the attached Standards of Conduct Declaration form are hereby deleted and the parties agree that paragraph 4 of the Contract and its attached form are not operative.
2. For purposes of this Contract to which this "Special Conditions" is attached, the following General Conditions are deleted and have no operative effect as between the parties:
 - a. Paragraph 2.e.
 - b. Paragraph 7.
 - c. Paragraph 9.
 - d. Paragraph 17.d.
3. Delete General Conditions 26. Ownership Rights and Copyright in its entirety and replace with the following language:

26. Ownership Rights and Copyright. If the CONTRACTOR, or an employee or employees of the CONTRACTOR, obtains a copyright to any material, whether finished or unfinished, that is developed prepared, assembled, or created pursuant to this Contract, the CONTRACTOR or its employees, as the case may be, shall own the copyright. The STATE may use the materials developed, prepared, assembled, or created pursuant to this Contract for any and all purposes, without restriction or charge. If neither the CONTRACTOR, nor any employee of the CONTRACTOR, before or by the date one year following the completion of the Contract, obtains a copyright to such material, the STATE may consider such material to be "works for hire," and in such circumstance, shall own the material and may copyright it. If the STATE owns the material or the copyright or both, the CONTRACTOR may use the material for any and all purposes without restriction or charge. The parties agree that upon the completion of this Contract they will execute a document that recites the day they agree to as the completion date and that date shall be the date of completion for the purposes of this paragraph.
4. Delete General Conditions 33. Patented Articles in its entirety and replace with the following language:

SPECIAL CONDITIONS

33. Patented Articles. If the STATE due to no fault on its part, because of an error, oversight, or omission by the CONTRACTOR is charged with or has any action or claim brought against it for an infringement or other unauthorized or improper use of any patented article, patented process, or patented appliance received or used by the STATE under or as a result of this Contract, the CONTRACTOR shall be solely responsible for correcting or curing to the satisfaction of the STATE at no cost to the STATE any such infringement or improper or unauthorized use of which the STATE has been accused or has had a claim made or an action brought against it. Such corrections or cures may include, but are not limited to: (a) furnishing at no cost to the STATE a substitute article, process, or appliance acceptable to the STATE, (b) payment of royalties or other payments to the patent holder, (c) obtaining proper authorizations or releases from the patent holder, and (d) furnishing security to or making arrangements with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use.

5. The CONTRACTOR through the Principal Investigator has provided sufficient evidence that the funding request is matched 1:1 with non-State of Hawaii funds, and thus has fulfilled the budget requirement in the attached Request for Proposals. No further evidence or mention of such shall be required of the CONTRACTOR by the STATE in fulfillment of this Contract.

GENERAL CONDITIONS

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GENERAL CONDITIONS

1. Coordination of Services by the STATE. The "head of the purchasing agency," (which term includes the designee of the head of the purchasing agency), shall coordinate the services to be provided by the CONTRACTOR in order to complete the performance required in the Contract. The CONTRACTOR shall maintain communications with the head of the purchasing agency at all stages of the CONTRACTOR's work, and submit to the head of the purchasing agency for resolution any questions which may arise as to the performance of this Contract. "Purchasing agency" as used in these General Conditions means and includes any governmental body which is authorized under chapter 103D, HRS, or its implementing rules and procedures, or by way of delegation, to enter into contracts for the procurement of services.
2. Relationship of Parties: Independent Contractor Status and Responsibilities, Including Tax Responsibilities.
 - a. In the performance of services required under this Contract, the CONTRACTOR is an "independent contractor," with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE's opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.
 - b. The CONTRACTOR and the CONTRACTOR's employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR's employees and agents shall not be entitled to claim or receive from the State any vacation, sick leave, retirement, workers' compensation, unemployment insurance, or other benefits provided to state employees.
 - c. The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR's performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR's employees and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR's employees or agents in the course of their employment.
 - d. The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
 - e. The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with section 237-9, HRS, and shall

- a. Recognition of a successor in interest. When in the best interest of the State, a successor in interest may be recognized in an assignment Contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:
- (1) The Assignee assumes all of the CONTRACTOR's obligations;
 - (2) The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
 - (3) The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.
- b. Change of name. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the Agency procurement officer indicating such change of name (for example, an amendment to the CONTRACTOR's articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR's name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.
- c. Reports. All assignment Contracts and amendments to this Contract effecting changes of the CONTRACTOR's name or novations hereunder shall be reported to the CPO within thirty days of the date that the assignment Contract or amendment becomes effective.
- d. Actions affecting more than one purchasing agency. Notwithstanding the provisions of subparagraphs 6a through 6c herein, when the CONTRACTOR holds Contracts with more than one purchasing agency of the State, the assignment Contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.
7. Indemnification and Defense. The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys' fees, and all claims, suits, and demands therefor, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR's employees, officers, agents, or subcontractors under this Contract. The provisions of this paragraph shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.
8. Cost of Litigation. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
9. Liquidated Damages. When the CONTRACTOR is given notice of delay or nonperformance as specified in paragraph 13 (Termination for Default) and fails to cure in the time specified, it is agreed the CONTRACTOR shall pay to the STATE the amount, if

- (2) Terminate the performance covered by such order as provided in the termination for default provision or the termination for convenience provision of this Contract.
- b. Cancellation or expiration of the order. If a stop performance order issued under this section is cancelled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the CONTRACTOR shall have the right to resume performance. An appropriate adjustment shall be made in the delivery schedule or Contract price, or both, and the Contract shall be modified in writing accordingly, if:
 - (1) The stop performance order results in an increase in the time required for, or in the CONTRACTOR's cost properly allocable to, the performance of any part of this Contract; and
 - (2) The CONTRACTOR asserts a claim for such an adjustment within thirty (30) days after the end of the period of performance stoppage; provided that, if the Agency procurement officer decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this Contract.
- c. Termination of stopped performance. If a stop performance order is not cancelled and the performance covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop performance order shall be allowable by adjustment or otherwise.
- d. Adjustment of price. Any adjustment in contract price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

13. Termination for Default.

- a. Default. If the CONTRACTOR refuses or fails to perform any of the provisions of this Contract with such diligence as will ensure its completion within the time specified in this Contract, or any extension thereof, otherwise fails to timely satisfy the Contract provisions, or commits any other substantial breach of this Contract, the Agency procurement officer may notify the CONTRACTOR in writing of the delay or non-performance and if not cured in ten (10) days or any longer time specified in writing by the Agency procurement officer, such officer may terminate the CONTRACTOR's right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part the Agency procurement officer may procure similar goods or services in a manner and upon the terms deemed appropriate by the Agency procurement officer. The CONTRACTOR shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services.
- b. CONTRACTOR's duties. Notwithstanding termination of the Contract and subject to any directions from the Agency procurement officer, the CONTRACTOR shall take timely, reasonable, and necessary action to protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest.

termination to the CONTRACTOR specifying the part of the Contract terminated and when termination becomes effective.

- b. CONTRACTOR's obligations. The CONTRACTOR shall incur no further obligations in connection with the terminated performance and on the date(s) set in the notice of termination the CONTRACTOR will stop performance to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated performance. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated performance. The Agency procurement officer may direct the CONTRACTOR to assign the CONTRACTOR's right, title, and interest under terminated orders or subcontracts to the STATE. The CONTRACTOR must still complete the performance not terminated by the notice of termination and may incur obligations as necessary to do so.
- c. Right to goods and work product. The Agency procurement officer may require the CONTRACTOR to transfer title and deliver to the STATE in the manner and to the extent directed by the Agency procurement officer:
 - (1) Any completed goods or work product; and
 - (2) The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this Contract.

The CONTRACTOR shall, upon direction of the Agency procurement officer, protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest. If the Agency procurement officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such goods and manufacturing materials. Use of this paragraph in no way implies that the STATE has breached the Contract by exercise of the termination for convenience provision.

- d. Compensation.
 - (1) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for convenience together with the cost or pricing data, submitted to the extent required by subchapter 15, chapter 3-122, Procurement Rules, bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Agency procurement officer may pay the CONTRACTOR, if at all, an amount set in accordance with subparagraph 14d(3) below.
 - (2) The Agency procurement officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total Contract price plus settlement costs reduced by payments previously made by the STATE, the proceeds of any sales of goods and manufacturing materials under subparagraph 14c, and the Contract price of the performance not terminated.

shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- (1) Written notice required. The CONTRACTOR shall give written notice to the Agency procurement officer:
 - (A) Prior to the commencement of the performance involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;
 - (B) Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the performance; or
 - (C) Within such further time as may be allowed by the Agency procurement officer in writing.
 - (2) Notice content. This notice shall state that the CONTRACTOR regards the act or omission as a reason which may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Agency procurement officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Agency procurement officer;
 - (3) Basis must be explained. The notice required by subparagraph 15a(1) describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and
 - (4) Claim must be justified. The CONTRACTOR must maintain and, upon request, make available to the Agency procurement officer within a reasonable time, detailed records to the extent practicable, and other documentation and evidence satisfactory to the STATE, justifying the claimed additional costs or an extension of time in connection with such changes.
- b. CONTRACTOR not excused. Nothing herein contained, however, shall excuse the CONTRACTOR from compliance with any rules or laws precluding any state officers and CONTRACTOR from acting in collusion or bad faith in issuing or performing change orders which are clearly not within the scope of the Contract.
 - c. Price adjustment. Any adjustment in the price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

16. Costs and Expenses. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to chapter 3-123 (Cost Principles) of the Procurement Rules and the following guidelines:

made by written amendment to this Contract, signed by the CONTRACTOR and the STATE, provided that change orders shall be made in accordance with paragraph 20 herein.

- b. No oral modification. No oral modification, alteration, amendment, change, or extension of any term, provision or condition of this Contract shall be permitted.
 - c. Agency procurement officer. By written order, at any time, and without notice to any surety, the Agency procurement officer may, unilaterally, order of the CONTRACTOR:
 - (A) Changes in the work within the scope of the Contract; and
 - (B) Changes in the time of performance of the Contract that do not alter the scope of the Contract work.
 - d. Adjustments of price or time for performance. If any modification increases or decreases the CONTRACTOR's cost of, or the time required for, performance of any part of the work under this Contract, an adjustment shall be made and this Contract modified in writing accordingly. Any adjustment in Contract price made pursuant to this clause shall be determined, where applicable, in accordance with the price adjustment clause of this Contract or as negotiated.
 - e. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if written Contract of modification is not made prior to final payment under this Contract.
 - f. Claims not barred. In the absence of a Contract modification, nothing in this clause shall be deemed to restrict the CONTRACTOR's right to pursue a claim under this Contract or for a breach of contract.
 - g. CPO approval. If this is a professional services Contract awarded pursuant to section 103D-303 or 103D-304, HRS, any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract which increases the amount payable to the CONTRACTOR by at least \$25,000.00 or ten per cent (10%) of the initial Contract price, whichever increase is higher, must receive the prior approval of the CPO.
 - h. Tax clearance. The STATE may, at its discretion, require the CONTRACTOR to submit to the STATE, prior to the STATE's approval of any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract, a tax clearance from the Director of Taxation, State of Hawaii, showing that all delinquent taxes, if any, levied or accrued under state law against the CONTRACTOR have been paid.
 - i. Sole source Contracts. Amendments to sole source Contracts that would change the original scope of the contract may only be made with the approval of the CPO. Annual renewal of a sole source Contract for services should not be submitted as an amendment.
20. Change Order. The Agency procurement officer may, by a written order signed only by the STATE, at any time, and without notice to any surety, and subject to all appropriate

- (5) In the absence of agreement between the parties, by a unilateral determination by the Agency procurement officer of the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as computed by the Agency procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126 of the Procurement Rules.
- b. Submission of cost or pricing data. The CONTRACTOR shall provide cost or pricing data for any price adjustments subject to the provisions of subchapter 15, chapter 3-122 of the Procurement Rules.
22. Variation in Quantity for Definite Quantity Contracts. Upon the agreement of the STATE and the CONTRACTOR, the quantity of goods or services, or both, if a definite quantity is specified in this Contract, may be increased by a maximum of ten per cent (10%); provided the unit prices will remain the same except for any price adjustments otherwise applicable; and the procurement officer makes a written determination that such an increase will either be more economical than awarding another Contract or that it would not be practical to award another Contract.
23. Changes in Cost-Reimbursement Contract. If this Contract is a cost-reimbursement Contract, the following provisions shall apply:
- a. The Agency procurement officer may at any time by written order, and without notice to the sureties, if any, make changes within the general scope of the Contract in any one or more of the following:
- (1) Description of performance (Attachment 1);
 - (2) Time of performance (i.e., hours of the day, days of the week, etc.);
 - (3) Place of performance of services;
 - (4) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the STATE in accordance with the drawings, designs, or specifications;
 - (5) Method of shipment or packing of supplies; or
 - (6) Place of delivery.
- b. If any change causes an increase or decrease in the estimated cost of, or the time required for performance of, any part of the performance under this Contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this Contract, the Agency procurement officer shall make an equitable adjustment in the (1) estimated cost, delivery or completion schedule, or both; (2) amount of any fixed fee; and (3) other affected terms and shall modify the Contract accordingly.
- c. The CONTRACTOR must assert the CONTRACTOR's rights to an adjustment under this provision within thirty (30) days from the day of receipt of the written order. However, if the Agency procurement officer decides that the facts justify it,

29. Cost or Pricing Data. Cost or pricing data must be submitted to the Agency purchasing officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for Contracts awarded pursuant to competitive sealed bid procedures.

If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.

30. Audit of Cost or Pricing Data. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.
31. Records Retention. The CONTRACTOR and any subcontractors shall maintain the books and records that relate to the Contract and any cost or pricing data for three (3) years from the date of final payment under the Contract.
32. Antitrust Claims. The STATE and the CONTRACTOR recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.
33. Patented Articles. The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys' fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented process, or patented appliance in connection with this Contract. The CONTRACTOR shall be solely responsible for correcting or curing to the satisfaction of the STATE any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the STATE a substitute article, process, or appliance acceptable to the STATE, (b) paying royalties or other required payments to the patent holder, (c) obtaining proper authorizations or releases from the patent holder, and (d) furnishing such security to or making such arrangements with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use.
34. Governing Law. The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.

HISC RT 002
HAWAII INVASIVE SPECIES COUNCIL
RESEARCH AND TECHNOLOGY PROGRAM

REQUEST FOR PROPOSALS

PROPOSALS DUE: NOVEMBER 3, 2004; JANUARY 3, 2005 AND APRIL 4, 2005.

The primary purpose of the program is to initiate and support research services that will result in improved management or control strategies for alien invasive species in Hawai'i.

Program Goals

- Encourage researchers to address the problems created by alien invasive species.
- Encourage the implementation of new technology to prevent the establishment or the control of invasive species.
- Develop effective, science-based management approaches to control alien invasive species.
- Effectively communicate the results of research to the field where it can be applied.
- Promote interagency collaboration and stimulate new partnerships.

General Research Priorities

The Hawaii Invasive Species Council seeks to promote effective control and management of alien invasive species using the best available scientific information. Research proposals that address clear links between management and research or the effective application of new technology will be given first priority.

Proposal Guidelines

- a. Contact Information Cover Sheet
- b. Proposal using the following format (five page maximum, 12 point font, 1 inch margins)
 - Problem statement
 - Methodology or approach
 - Schedule of activities
 - Description of deliverable products
 - Personnel and Partners
 - Budget

Cover Sheet:

Provide contact information via U.S. postal service, e-mail and fax for the principle investigator of the proposal. The cover sheet should also have the title of the proposal and the total amount requested.

Problem Statement:

Briefly describe the significance of the problem, as well as the manner in which the proposed work will make a contribution to solving or understanding the problem. The problem statement should describe how new technology will be applied to address invasive species or how the scientific question will affect the development of improved management practices or understanding of an issue relating to Hawaii's invasive species. Provide a brief review of past and current research relevant to the problem.

Methodology or Approach:

Describe the objectives, approach, and methodology used in the proposed project.

Schedule of Activities:

Provide an activities timetable, including start date and project completion date. Project completion date must include the completion of deliverable products.

Description of Deliverable Products:

Describe deliverable product and how the project will effectively communicate the results of the research.

Personnel and Partners:

Indicate who will carry out the research, as well as a brief statement of the investigator(s') qualifications and experience with regard to the proposed work. Include a CV for the principle investigator.

Budget:

Clearly delineate costs to be met by HISC and those to be provided by other sources. Funds must be matched 1:1 with non-State of Hawaii funds. In-kind resources will be considered.

Grant Size

We reserve the right to fund a proposal at an amount lower than requested.

Project Selection & Criteria

Proposals will be reviewed by an advisory panel representing resource managers and the scientific community. In addition to supporting research that will lead to improved management strategies, it is the intent of the program to support research of the highest quality. The criteria to be used in evaluating proposed projects include: 1) relevance to Hawaii's invasive species issues; 2) clearly developed hypotheses and methods; 3) utility of research results; 4) applicability of results; and 5) how the results will be communicated.

Schedule

Proposals due:	November 3, 2004	January 3, 2005	March 3, 2005
Notification of award or denial:	January 2005	March 2005	May 2005
Progress report due:	May 2005	July 2005	September 2005

Inquiries

Please direct inquiries to

Mindy Wilkinson, Ph.D.
 Invasive Species Coordinator
 Phone (808) 587-0164 Fax (808) 587-0160
 Mindy.M.Wilkinson@hawaii.gov

The **original proposal and 5 copies** should be sent to:

Mindy Wilkinson, Ph.D.
 Invasive Species Coordinator
 Hawaii Department of Land and Natural Resources
 Division of Forestry and Wildlife
 1151 Punchbowl Street, Room 325
 Honolulu, HI 96813

NEW PROPOSAL

to

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE**

from

UNIVERSITY OF HAWAII AT MANOA


Office of Research Services
Sakamaki Hall D200 Dole Street
Honolulu, HI 96822

**Pacific Cooperative Studies Unit
University of Hawai'i at Manoa**

**Accelerated evaluation of insects in Costa Rica and Brazil for
biocontrol of *Miconia calvescens***

TOTAL BUDGET \$78,747


1st July 2005 – 30 September 2006



Dr. David C. Duffy
Professor of Botany
Director PCSU/UH



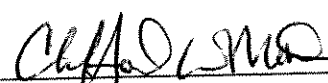
Date



Dr. Charles Hayes
Interim Dean, Natural Sciences
College of Arts and Sciences




Date

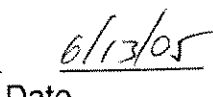


Dr. Gerry Carr
Professor of Botany
And Chair,
Botany Department

Date



Kevin Hanaoka
Director
Office of Research Services



Date

Accelerated evaluation of insects in Costa Rica and Brazil

Salary	Post doctoral researcher	45000
Benefits	Post doctoral researcher	13500
Supplies	vehicle fuel and maintenance	3041
International travel	Costa Rica-Brazil-Hawaii (multiple)	9000
PCSU direct charge of 5%		3749
Subtotal		74290
UH indirect (6%)		\$ 4,457
Total		\$ 78,747

Background and Rationale

Miconia calvenscens is widely recognized as the most threatening invasive plant in Hawaii today (Medeiros et al. 1997, Meyer 1998). Although significant progress has been made in containing its spread using herbicides and hand-pulling, introduced biological agents are necessary for long term control (Smith 2002). Classical biocontrol of weeds is the deliberate introduction of exotic herbivores and pathogens to reduce population density of an alien weed, and entails exploration in the weed's native range, evaluation of prospective agents for specificity and efficacy against the target weed, and release and monitoring of agents that meet regulatory approval (Huffaker and Messenger 1976). So far a fungal pathogen of miconia has been introduced and established (Killgore 2002), however sustained control by this single agent appears unlikely.

Proyecto Miconia at the University of Costa Rica was initiated in 2000 by Professor Clifford Smith of The Pacific Cooperative Studies Unit for the purpose of discovering insect agents for biocontrol of miconia. This project has generated a list of potential agents which have been prioritized according to their expected impacts on the weed (see table). In addition to the ongoing work in Costa Rica, a 1-year survey by researchers at the Federal University of Vicosa has generated a list of insects attacking miconia in Brazil. Our high priority list includes three species that currently are being studied in detail, with the objective of providing data on specificity, impact and rearing methods needed before the insects are brought to Hawaii for quarantine testing. Evaluation of additional species is planned, but will require commitment of additional resources to the project.

The project began modestly (approx. \$120,000 in total invested over the past 4 years) with University of Costa Rica students performing exploratory surveys under supervision of an entomology professor. In 2002, using Forest Service International Programs funds (an additional \$30,000 per year), we hired a Costa Rican post-doc to work full-time managing the project. This addition greatly improved productivity of the UCR team of students and technicians by providing a focal person for logistics, communication and supervision.

Potential biocontrol agents against *Miconia calvenscens* with high priority for development

TAXON	SPECIES	ATTACKS	LOCATION
Psyllidae	<i>Diclidophlebia lucens</i> *	Shoots/Inflorescences	Costa Rica, Brazil
Lycaenidae	<i>Euselasia chrysippe</i> *	Leaves	Costa Rica
Curculionidae	<i>Cryptorhynchus melastomae</i> *	Stem	Costa Rica
	<i>Anthonomus</i> sp.	Fruits	Costa Rica
	<i>Pedetinus halticoides</i>	Fruits	Costa Rica
Lycaenidae	<i>Thecla opisena</i>	Buds/Fruits	Costa Rica
Lepidoptera	unidentified borer	Fruits	Costa Rica
Argidae	<i>Atomacera petroa</i>	Leaves	Costa Rica, Brazil
Pyrilidae	<i>Antegumia</i> sp.	Leaves	Brazil
Mimallonidae	<i>Druentia</i> cf. <i>inscita</i>	Leaves	Brazil
Cecidomyiidae	unidentified midge	Flowers	Costa Rica
Coleophoridae	<i>Mompha</i> sp.	Flowers	Costa Rica
Nematoda	gall-forming nematodes	Leaves/shoots	Costa Rica

* Species currently under focused study

Our current model of accomplishing most of the foreign work with student help is relatively inexpensive, but slow, because of the limitations that students face due to inexperience and classroom commitments, and because our university collaborators can

supervise only a few students at a time. It also presents a challenge in continuity, because expertise acquired by foreign students must be transferred to Hawaii where insects must be reared and tested in quarantine. With a full-time project manager based in Costa Rica, some of the weaknesses of relying on students have been overcome. However, our funding for the project manager will expire in the next year and the challenge of completing biological studies and quarantine testing of several prospective agents will remain.

With current and pending funds, we will be able to support the Costa Rica project manager and students to through at least Dec 2005. In addition, we propose funding for an improvement that will accelerate development of insects for release in Hawaii: by hiring a full-time US post-doc for a period of 1 year, we can acquire data needed for pre-release evaluation of potential biocontrol agents more rapidly. This individual will be responsible for acquiring necessary data for targeted agents, including life history of each species in its native habitat, preliminary assessment of host specificity and impact, and rearing methods. It is expected that a skilled post-doc working alongside our existing teams in Costa Rica and Brazil will be able to evaluate 3-4 additional species in a year, less than half the time it will take using primarily student help.

Work Plan

Objective: Obtain life history, rearing methods, preliminary host specificity and impact data for 3 or more prospective agents for biocontrol of *Miconia calvescens*.

Following hiring and orientation in Hawaii, the post-doc will be dispatched to Costa Rica to begin work on flower and fruit feeding insects. Post-doc will travel between Costa Rica and Brazil to evaluate different species according to seasonal patterns in each hemisphere, but most work is expected to be done in Costa Rica. (*Miconia* vegetative growth in Costa Rica: May-Nov; in Brazil: Nov-May; reproduction in Costa Rica: Nov-Apr; in Brazil: May-Jun.)

Life history data will be measured through observations in the field as well as insects reared on potted plants or plant material in the lab. Data will include duration of each developmental stage; location, timing and frequency of feeding, mating and egg-laying; fecundity; and incidence of parasitism and predation. If rearing attempts are successful, technical staff will be provided instructions for colony maintenance and monitoring. Host specificity will be evaluated through documentation of use or non-use of associated plants in the field and limited no-choice tests in the lab. Impact will be evaluated in the field in terms of insect density and damage per individual feeding insect, and using experimental inclusion or exclusion of insects if feasible.

Schedule of activities

<u>Month</u>	<u>Activity</u>
Oct 2005	Hire post-doc (project start)
Oct	Preliminary evaluation of inflorescence feeders in Costa Rica
Nov	Preliminary evaluation of leaf/stem feeders in Costa Rica and Brazil
Dec-Apr 2006	Detailed study of 2-3 inflorescence insects in Costa Rica
Apr-Jun	Detailed study of 1-2 leaf/stem insects in Brazil
May-Sep	Detailed study of 1-2 leaf/stem insects in Costa Rica
Aug-Sep 2006	Write-up (project completion)

Deliverables

Biological data on each species will be written up by the post-doc and principal investigator as separate publications (for submission to peer reviewed journals such as Biological Control, and also formulated for inclusion in petitions for release (as established by the Hawaii Department of Agriculture and USDA-APHIS).

Viable insect colonies together with rearing instructions will be shipped to quarantine in Hawaii for detailed host specificity tests.

Personnel and Partners

Work will be conducted by a post-doctoral entomologist from the University of Hawaii. The post-doc will design, conduct and write up biological studies of selected species, in consultation with the principal investigator. The post-doc will be based at the Universidad de Costa Rica primarily and at the Universidade Federal de Vicosa secondarily. Previous experience in rearing insect herbivores will be a criterion for hire.

The post-doc will be supervised by PI Tracy Johnson (Research Entomologist, US Forest Service), who will be responsible for coordination with Costa Rican and Brazilian researchers, oversight of experimental design, data analysis and write-up. Dr. Johnson has overseen foreign and Hawaii-based development and evaluation of insects for biocontrol of Hawaiian forest weeds over the past four years, and has 20 years of research experience in insect-plant interactions. Supervision will be maintained by frequent emails and phone calls as well as 2 trips by Dr. Johnson over the course of the one-year project.

Paul Hanson, professor of entomology at Universidad de Costa Rica, and Edgar Rojas, Miconia project manager at UCR, provide supervision of the team of students and technicians in that country. Team members will provide technical and logistical support for the post-doc, including use of a 4wd vehicle dedicated to miconia fieldwork.

Marcelo Picanco, professor of entomology at Universidade Federal de Vicosa, and Robert Barreto, plant pathologist at UFV, will host studies at Brazil sites. Their labs will provide technical support, although vehicle rental may be necessary.

Safety

The PCSU SOP will be followed, as well as those of other agencies when working in their facilities or jurisdictions.

Acknowledgements

The parties agree to acknowledge each other in publications and publicity resulting from this work.

Budget

Most of the budget will be assigned to the salary and benefits for a post doc. Three thousand dollars will be budgeted for fuel and maintenance for a vehicle. With nine thousand dollars for international travel between Hawaii, Costa Rica and Brazil. On the basis of the agreement

between UH and DLNR, PCSU will charge a 5% direct fee for administration of this award and UH's indirect charge is 6%.

Literature Cited

- Burkhart, R. 1995. Natural enemies of *Miconia calvescens*. Hawaii Department of Agriculture, unpublished report. Website: www.botany.hawaii.edu/faculty/cw_smith/mc_control.htm.
- Huffaker, C.B., and P.S. Messenger. 1976. Theory and practice of biological control. Academic Press, New York.
- Killgore, E.M. 2002. Biological control potential of *Miconia calvescens* using three fungal pathogens. Pp. 45-52 in: Proceedings of a workshop on biological control of invasive plants in native Hawaiian ecosystems, C.W. Smith, J. Denslow, S. Hight (eds.). Pacific Cooperative Studies Unit, University of Hawai'i at Manoa. 122 pp. (Technical Report 129).
- Medeiros, A.C., L.L. Loope, P. Conant, and S. McElvaney. 1997. Status, Ecology, and Management of the Invasive Plant, *Miconia calvescens* DC (Melastomataceae) in the Hawaiian Islands. Records of the Hawaii Biological Survey for 1996. Bishop Museum Occasional Papers 48: 23-36.
- Meyer, J.-Y. 1998. Epidemiology of the invasion by *Miconia calvescens* and reasons for a spectacular success. pp. 4-26 in Meyer, J.-Y. and C.W. Smith (Eds.) Proceedings of the First Regional Conference on Miconia Control, August 26-29, 1997, Papeete, Tahiti
- Smith, C.W. 2002. Forest pest biological control in Hawaii. Pp. 91-102 in: Proceedings of a workshop on biological control of invasive plants in native Hawaiian ecosystems, C.W. Smith, J. Denslow, S. Hight (eds.). Pacific Cooperative Studies Unit, University of Hawai'i at Manoa. 122 pp. (Technical Report 129).

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

May 13, 2005

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: REQUEST FOR APPROVAL TO ENTER INTO CONTRACTS OR PURCHASING AGREEMENTS TO IMPLEMENT SEVENTEEN HAWAII INVASIVE SPECIES COUNCIL RESEARCH AND TECHNOLOGY GRANT PROGRAM PROJECTS: WITH THE UNIVERSITY OF HAWAII FOR "METHODS TO CONTROL ALIEN ALGAE"; WITH THE USDA INST. OF PAC. ISLANDS FORESTRY OR UNIVERSITY OF HAWAII FOR "THE ACCELERATION OF MICONIA BIOCONTROL"; WITH THE UNIVERSITY OF HAWAII FOR "BIOCONTROL OF SNOWFLAKE CORAL"; WITH THE USDA PAC. BASIN AG. RESEARCH CTR FOR "NETTLE CATERPILLAR PHEROMONE STUDY"; WITH THE UNIVERSITY OF HAWAII FOR "COASTAL IMPACTS OF INVASIVE ANTS"; WITH THE UNIVERSITY OF HAWAII FOR A STUDY ON THE "ECOLOGY OF SNOWFLAKE CORAL"; WITH THE UNIVERSITY OF HAWAII FOR A PILOT STUDY "DETECTION & REPORTING OF INVASIVES"; WITH THE USDA INST. OF PAC. ISLANDS FORESTRY OR UNIVERSITY OF HAWAII FOR THE "TESTING OF MICONIA BIOCONTROL"; WITH THE BISHOP MUSEUM FOR A "REPTILE & AMPHIBIAN RISK ANALYSIS"; WITH THE USDA INST. OF PAC. ISLANDS FORESTRY OR UNIVERSITY OF HAWAII FOR THE "TESTING OF TIBOUCHINA BIOCONTROL"; WITH UTAH STATE UNIVERSITY FOR A STUDY ON "ECOLOGICAL CONSEQUENCES OF COQU"; WITH THE UNIVERSITY OF HAWAII FOR A STUDY ON "CONTROL OF VEILED CHAMELEON"; WITH LEILANI NURSERY ON "THERMAL TREATMENT FOR COQU"; WITH THE HAWAII AGRICULTURE RESEARCH CENTER FOR "TWIG BORER ATTRACTANTS & REPELLENTS"; WITH THE UNIVERSITY

cc: [unclear]
[unclear]
[unclear]

5/13/05

ITEM C-2

OF HAWAII FOR A "STUDY OF THE RED-MASKED
CONURE"; WITH THE HAWAII DEPARTMENT OF HEALTH
FOR A STUDY TO "MAP A NEW INVASIVE MOSQUITO";
WITH THE UNIVERSITY OF HAWAII FOR A STUDY ON
"FOUNTAIN GRASS MANAGEMENT"

This Board Submittal approves contractual or purchasing agreement relationships for seventeen projects that address research and technology needs for invasive species priorities, and authorizes the Chairperson to develop and enter into contracts for these services, subject to the availability of funds and approval as to form by the Attorney General's Office.

BACKGROUND:

The 2003 State Legislature authorized the creation of the Hawaii Invasive Species Council and stated "the silent invasion of Hawaii by alien invasive species is the single greatest threat to Hawaii's economy, natural environment, and the health and lifestyle of Hawaii's people and visitors." Hawaii is one of the seven states in the nation that has recognized the need for coordination among all state agencies, at a cabinet level, that have responsibility to control invasive species on the ground, as well as regulate the pathways in which invasive species can gain access into the State.

The creation of the Council (whose members are the Directors of the Departments of Land and Natural Resources (DLNR,) Agriculture (DOA,) Business, Economic Development, and Tourism (DBEDT,) Health (DOH,) Transportation (DOT) and University of Hawaii (UH,) and other Department Directors (Hawaiian Home Lands (DHHL,) Commerce and Consumer Affairs (DCCA) and Defense (DOD)) now provides the institutional framework for leadership and coordination for a statewide invasive species prevention and control program.

HISC, through the DLNR, received an administrative budget of \$4 million for the initial year to provide support for the operations of the HISC and its cooperating partners, to develop a comprehensive state-wide invasive species prevention, control, research, application of new technology, and outreach program. These funds will be matched 1:1 with non-state dollars. Of that amount, \$700,000 was budgeted for the Research and Technology Grant program. A total of 71 grant applications were received and 17 were selected for funding.

These selected seventeen Research and Technology projects (Attachments A-Q), require \$600,165 in HISC funding, and are matched with \$983,572 in non-state dollars. They are:

<u>Attach- ment</u>	<u>Project</u>	<u>Recipient</u>	<u>Amount</u>
A	Control of Alien Algae	University of Hawaii	\$82,980
B	Accelerate Biocontrol of <i>Miconia</i>	USDA Inst. of Pac. Islands Forestry or UH	\$78,747
C	Biocontrol of Snowflake Coral	University of Hawaii	\$52,018
D	Nettle Caterpillar Pheromone Study	USDA Pac. Basin Ag. Research Ctr	\$50,000
E	Coastal Impacts of Invasive Ants	University of Hawaii	\$47,359
F	Ecology of Snowflake Coral	University of Hawaii	\$40,534
G	Detection & Reporting of Invasives	University of Hawaii	\$37,400
H	Testing of <i>Miconia</i> Biocontrol	USDA Inst. of Pac. Islands Forestry or UH	\$37,275
I	Reptile & Amphibian Risk Analysis	Bishop Museum	\$36,250
J	Testing of <i>Tibouchina</i> Biocontrol	USDA Inst. of Pac. Islands Forestry or UH	\$28,075
K	Ecological Consequences of <i>Coqui</i>	Utah State University	\$28,800
L	Control of Veiled Chameleon	University of Hawaii	\$25,000
M	Thermal Treatment for <i>Coqui</i>	Lailani Nursery	\$22,675
N	Twig Borer Attractants & Repellents	Hawaii Agriculture Research Center	\$21,500
O	Study of the Red-Masked Conure	University of Hawaii	\$10,489
P	Mapping a New Invasive Mosquito	Hawaii Department of Health	\$2,243
Q	Fountain Grass Management	University of Hawaii	\$820

Some of the project amounts listed above are lower than were requested in their original proposals (Attachments F, K, P, and Q). The project with Hawaii Department of Health (Attachment P) will be awarded as a Cooperative Agreement. Two other projects with amounts less than \$25,000 (Attachments M and Q) will be processed with Purchase Orders instead of contracts.

CONTRACT PROVISIONS

The Invitation for Bids for these projects was published on the State Procurement Office web site on November 3, 2004 (IFB No. HISC RT 001), November 23, 2004 (IFB No. HISC RT 002), and March 1, 2005 (IFB No. HISC RT 003).

Contracts or purchasing agreements will be negotiated with the principal investigators authorized by the recipients, to implement the projects according to their project descriptions. The standard State contract form or a contract agreement form developed specifically for the HISC awards, will be used and approved by the Attorney General's Office.

Upon approval by the Board, the Division will work with the grantee and the Attorney General's Office, to develop contract language and submit it for review and approval as to form by the Attorney General, and signature by the Chairperson.

RECOMMENDATION:

That the Board: 1) approve implementation of the HISC Research and Technology grant program for FY05; and 2) authorize the chairperson to negotiate and execute contracts subject to:

- a. Scope of Services (Contract Deliverables) as described in the attached proposals,
- b. Availability of state funds; and
- c. Approval as to form by the Attorney General's Office.

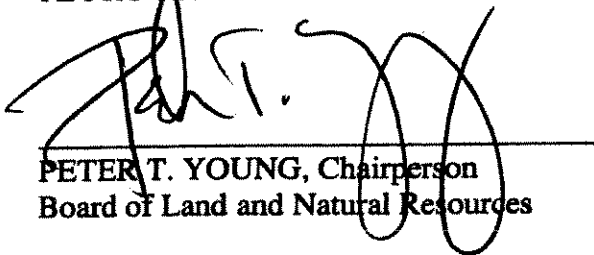
Respectfully submitted,



PAUL J. CONRY
Administrator

Attachments (A-Q)

APPROVED FOR SUBMITTAL:



PETER T. YOUNG, Chairperson
Board of Land and Natural Resources

**Proposal to Hawaii Invasive Species Council
Research and Technology Grant Fund**

Development of Methods to Control Alien Algae on Hawaii's Reefs

**Research funds requested: \$82,980
Project Period: January 1-December 31, 2005**

**P.I. Cynthia L. Hunter,
University of Hawaii, Marine Biology
Dean 2, 2450 Campus Road,
Honolulu, HI 96822
808-956-4748 tel
808-956-4745 fax
cindyh@hawaii.edu**

AUTHORIZING UNIVERSITY

OFFICIAL:



DATE: 12/02/04

**Kevin Hanaka
Interim Director of Research Services**

ADDRESS:

**University of Hawaii
Office of Research Services
Sakamaki D200
2530 Dole Street
Honolulu, HI 96822**

Please ensure that all correspondence regarding this application and project are addressed to the Office of Research Services.

Problem Statement:

Hawaii's marine ecosystems support fishing and recreational activities, a tourism-based economy, and a cultural heritage. Currently, alien invasive algae present one of the most insidious threats to the health of Hawaii's coral reef ecosystems. Two mat-forming alien species, introduced in the 1970's for aquaculture research, are often unpalatable to native fish grazers, are highly invasive, and are capable of outcompeting and overgrowing corals. Without the development of an effective removal and control program, it is expected that these algae will continue to spread throughout the State, directly threatening the survival of Hawaii's coral reefs.

This proposed research will develop and test methods designed to restore key areas of coral reef and ecosystems in Hawaii. We will focus initial efforts in Kaneohe Bay where highly invasive alien seaweeds--*Gracilaria salicornia* and *Kappaphycus/Eucheuma* spp.—have spread dramatically during the past decade (Rogers and Cox, 1999; Smith et al. 2002)

Currently (October, 2004), the project stands poised to get underway within the next few weeks. Most of the necessary equipment (venturi pump, hoses, floating platform, and sorting table) has been identified, developed, and purchased. Preliminary tests of the system have been conducted at Hawaii Institute of Marine Biology. However, additional funding is needed for further testing and implementation of a full-scale, 12-month demonstration effort in Kaneohe Bay.

Approach and Methods

The goal of this project is to assess methodologies to restore Hawaii's coral reef ecosystems through removal and control of alien invasive algae. Specific objectives include:

- a) Developing and deploying a mechanical suction system capable of removing large volumes of algal biomass from reefs while minimizing damage to other reef organisms, and quantifying the impact of this technique on the native benthic community,
- b) Experimentally examining the effectiveness of enhancing populations of native sea urchins as a means of increasing grazing pressure on invasive algae and reducing their ability to regrow following large-scale mechanical removal, and,
- c) Monitoring reefs subjected to the above treatments to determine their immediate and long-term effectiveness in controlling invasive algae.

Site Selection: Initial sites selected for algal removal will be in areas of Kaneohe Bay where blooms of the alien algae *Gracilaria salicornia* and *Kappaphycus* sp. have been documented. Sites will be selected at the margin of expanding algal blooms to help to prevent further spread of algae over new areas of coral reef. Adjacent to each removal site, an appropriate control site will be established where the same survey protocols are followed but without removal of alien algae. Mechanical algal removal will take place at a minimum of 3 sites in plots of various sizes ranging from 100m² to 10,000 m². Additional sites will be added if person hours for mechanical removal prove sufficient.

Pre-Removal Surveys: In order to determine both the effectiveness of the mechanical removal technique and its impact on the reef environment, baseline surveys will be conducted prior to the